# Assignment: Sprint Key Questions & Next Steps

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**Assignment Instructions:**
For this assignment, you'll be developing:

- A set of key questions to prepare to run each of the four sprints: Personas & problem scenarios, motivation, usability, and architecture
- An action plan for your next steps

## Introduction

### Free drinking fountains across Amsterdam (The Netherlands, Europe)

Amsterdam's municipality provides a fantastic service to residents and visitors: public, free of charge water taps to refresh and quench your thirst. There are drinking fountains all around Amsterdam and other cities in The Netherlands.
Still bottled water is sold in stunning numbers: in Amsterdam 21.7m liters water was sold in bottles in 2014 (Source: AMS Instituut voor stadsonderzoek).

### Identified Problem

When out and about you easily get thirsty. There is a great infrastructure of drinking fountains but the drinkwater fountains tend to blend so well into the city, you might have trouble finding them. So there are millions of liters of bottled water sold, which simply is a waste of resources in terms of producing, transportation, recycling and/or causing landfill. Find out more on the harmful effects of bottled water here.

## Product Positioning statement

We help you finding the nearest water fountain to quench your thirst - Keep hydrated and happily exploring Amsterdam!

> For visitors and residents of Amsterdam who are out and about exploring the city and are getting thirsty, **"Drinkwater.free"** is an app and/or responsive webpage that shows where the nearest drinking fountain is located and provides information about the drinking water quality.

Unlike bottled water purchased at a shop, our product locates free, highest quality drinking water and prevents waste caused by plastic bottles.

## Core/Summary Value Hypothesis

If we provide visitors and residents of Amsterdam an mobile app to find the nearest drinking fountain, then they will download it, use it and will buy less water in plastic bottles.

## Sprint Key Questions

| **KEY QUESTIONS FOR PERSONAS & PROBLEM SCENARIOS SPRINT** | |
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| What general population(s) and problems do we want to learn about? | We want to learn about residents and visitors of Amsterdam, who are drinking tap water and want to refill their bottle when out and about in Amsterdam.<br>Main problem: are they able to locate a public drinking fountain and are they using it to quench their thirst and/or refill their own bottle?<br>Are they interested in a mobile app, that locates the nearest fountain for them and help them to find it? |
| What screener did we use for subjects? | **Residents**: [To be asked in Dutch] Are you living in Amsterdam? Are you drinking tap water when you are on the go? How often do you carry a bottle with water with you? How often do you drink water when you were on the go last week?<br>**Visitors**: [To be asked in English] Are you visiting Amsterdam? Where are you from? How long are you in Amsterdam? When in Amsterdam, do you drink tap water? How often do you drink water during a day out and about? [at least 3 times a day] |
| Where did we (will we) recruit subjects? | **Residents:** in front of a supermarket, near the bike racks in Amsterdam Centrum and at the entrance of a park (westerpark)<br>**Visitors**: in front of the station (CS) and at the entrance of a park (Vondelpark) |

| **KEY QUESTIONS FOR MOTIVATION SPRINT** | |
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| What is the basic/summary value hypothesis we're testing? | If we provide visitors and residents of Amsterdam an mobile app to find the nearest drinking fountain, then they will download it, use it and will buy less water in plastic bottles. |

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| What are the specific hypotheses and experiment vehicles we plan to test? Pick your top choice (1) of experiment vehicle for each assumption. | ● If we approached residents and visitors of Amsterdam who are active and drink (tap)water when on the go, at least 10% would download the app.<br>→ Wizard of Oz: Set up a website and drive traffic to it where they can sign up to be contacted once the app is available. Monitor the conversation rate of traffic/no-bounce to sign up.<br>● If there are images of the drinking fountains available, users would look at them to easier spot the fountains on the street.<br>→ **Concierge**: observing them and finding feedback personally while they use a mockup<br>● If we offered information about the quality and the safety of the drinking water and how water is cleaned and treated, at least 4% of target users would go to our site to look up the information.<br>→ **Wizard of Oz:** Create a mockup site with the information about how the water is treated and cleaned and provide information on safety and quality of drinking water in English. Approach visitors (online and offline) and provide information, monitor the CTR. |

| **KEY QUESTIONS FOR USABILITY SPRINT** | |
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| What are the user stories we're working? What are the major interface chunks or jobs we need to prototype (ex: a calendar a group of users can edit and share)? How do these relate to the stories above? | **As Anna** the active Amsterdammer, **I want to** locate the nearest drinking fountain when out and about in Amsterdam **so that I can** refill my bottle with fresh water at a public water tap that is close to my current location.<br><br>As Anna, I want the app to locate the nearest drinking fountain based on the reported location of my mobile device(e.g. GPS), so that I can find the nearest one even if I don't know my precise location.<br><br>**As Fred**, a foreign tourist exploring Amsterdam, **I want to** get information about the quality of tap water provided at drinking fountains **so that I** can be assured that the tap water is of drinking quality.<br><br>As Fred, I want the app to show me directions to the nearest drinking fountain, so that I can find the drinking fountain to fill up my bottle.<br><br>As Anna and as Fred, I want the app to show me an image of the drinking fountain, so that I can spot it immediately. |
| What are the major interface chunks or jobs we need to prototype (ex: a | **Interactive Map:**<br>- Locations of drinking fountains shown on the map<br>- Search function based on address input, and current location as reported by mobile device |

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| calendar a group of users can edit and share)? How do these relate to the stories above? | - Directions from current location to nearest drinking fountain<br>- Locations of drinking fountains around current location plus 500 meters radius<br>**Information about water quality:**<br>- Information about water quality with test results<br>- Information about water treatments<br>- Languages: english, dutch, german, russian |

| **KEY QUESTIONS FOR AN ARCHITECTURE SPRINT** | |
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| What are the personas and user stories we're working? | **As Anna** the active Amsterdammer, **I want to** locate the nearest drinking fountain when out and about in Amsterdam **so that I can** refill my bottle with fresh water at a public water tap that is close to my current location.<br><br>As Anna, I want the app to locate the nearest drinking fountain based on the reported location of my mobile device(e.g. GPS), so that I can find the nearest one even if I don't know my precise location.<br><br>**As Fred**, a foreign tourist exploring Amsterdam, **I want to** get information about the quality of tap water provided at drinking fountains **so that I** can be assured that the tap water is of drinking quality.<br><br>As Fred, I want the app to show me directions to the nearest drinking fountain, so that I can find the drinking fountain to fill up my bottle.<br><br>As Anna and as Fred, I want the app to show me an image of the drinking fountain, so that I can spot it immediately. |
| What are the major chunks or jobs we need to build or find in a third party module (ex: a calendar a group of users can edit and share)? How do these relate to the stories above? | **Interactive Map:**<br>- View: Use google maps as comparable<br>- Controller:<br>  - build search function based on user entry<br>  - Build search function based on reported location of mobile device<br>- Model:<br>  - database to hold locations of drinking fountains<br>  - Information about each drinking fountain (image, other information)<br>**Information about water quality:**<br>- Multi Languages<br>- View: |

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| | - user selects language, comparable<br>- Language selected based on language in browser/mobile device set as main language (wix multilingual)<br>- Standard language English<br>- Controller:<br>- Sets language based on user language in settings<br>- Model: information in english, dutch, german, russian |

# Next Steps Template

| **Hypothesis/Sprint Topic** | **Validation Notes** |
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| PERSONA & PROBLEM HYPOTHESES Describe (briefly) your persona(s) and how you've validated their existence and point of view. Describe (briefly) your personas' problem scenarios and how you've tested and validated their importance. | I have confirmed the persona of Anna, observing who is using the existing drinking fountains and talking to people in my network.<br>The persona Fred is a bit more tricky as I am not sure how many foreign visitors would trust the tap water in Amsterdam to drink it.<br>For both groups it is hard to find a drinking fountain, which blend into the city very/too well. |
| VALUE HYPOTHESIS (from Motivation Sprint or related activities) Describe your core value hypothesis (If we [do something] for [target persona] they will [respond in a certain way]) and how you've validated it | "If we provide visitors and residents of Amsterdam an mobile app to find the nearest drinking fountain, then they will download it, use it and will buy less water in plastic bottles."<br>I have build a mockup to show the functionality of the service and it is being used (angelikadw.github.io).<br>Hence I regard the value hypothesis being validated. |
| USABILITY HYPOTHESIS Describe your key user stories and how you've validated the interfaces you're using. | User stories as above.<br>We need to build the mockups for the app. Not yet done.<br>Next step is to test with target users. |
| ARCHITECTURE HYPOTHESIS Describe the key epics you want to implement, the functional blocks they require (ex: a user-editable calendar) and how you've validated your architecture choices. | Key Epics:<br>**Interactive map with search functions**<br>- Automatic location finder<br>- Database with location of fountains, images, and information of fountains (icons and images no text that needs translation)<br>**Information about water quality**<br>- Multilingual function<br>- Content needs to be developed/edited and translated |

| **The next sprint should be….** | **Because….** |
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| Usability sprint | The functionality and user interface are not developed nor tested and validated yet. |

If you are interested, here the link to the current MVP of the responsive website, not yet including the above identified child stories: [angelikadw.github.io](angelikadw.github.io)

# Appendix A: Persona


**Anna**, the Amsterdammer who always carries a drinking **bottle** with her. Anna has been living in Amsterdam since she moved from northern Netherlands to Amsterdam for her studies and now lives with her family and 2 kids (4 and 7 years old) in Amsterdam Nieuw-West. She is 38 years old works part time as a freelance project manager in Amsterdam and takes care of her kids.

Anna criss-crosses Amsterdam on her bike. In the morning she brings her kids to school and daycare and cycles on to her workplace. As she is freelancing, her work changes frequently, which she enjoys: different challenges, working with different people on specific projects and she gets to see a lot of different parts of the city. After work she directly heads home, as her partner picked up the kids and they prepare dinner and close the day together.

When she is off work (Wednesdays and Fridays, as well as weekends) she spends time with her children outdoors. As she lives in a typical Amsterdam apartment, which is quite small and has no private outdoor space, she and her family like to spend the afternoons and in the summer as well the long evenings in public parks or playgrounds. She enjoys the hustle and bustle of Amsterdam and meeting friends, neighbours and tourists in the parks.

As Anna is active and moves around, she always carries a bottle of drinking water with her to quench her and her kids' thirst. But especially in spring and summer, she can't carry enough water to keep everyone in her family hydrated and sometimes she ends up buying reluctantly bottled water to quench the thirst. Anna is keenly aware of the waste plastic bottles cause.

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| **Thinks** | Anna thinks that buying bottled water is wasteful and usually carries her own reusable bottle with her. She fills her bottle at home or at the office with tap water. Anna is completely trusting the quality of the tap water in Amsterdam. However during warm days she runs regularly runs out of water, as her kids and herself are quite thirsty. She can't carry a bigger bottle with her, as she is on her bike. So reluctantly she buys bottled water at a nearby shop. |
| **Sees** | In the stores she sees the wide variety of bottled water, different brands and sizes. Anna sees empty plastic bottles in the trash cans and scattered around the parks and as well in the water canals across Amsterdam. |

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| | Tourists and locals alike seem to buy lots of bottled water. |
| **Feels** | Despite being aware of the wastefulness of bottled water, she enjoys drinking the refrigerated bottled water on warm days. Anna is doing her best to limit waste of ressources and when buying bottled water she feels guilty. However drinking water to stay hydrated is key. Buying refrigerated bottled water is her “guilty pleasure”: she is keenly aware of the waste but enjoys the cool sensation when quenching her thirst. |
| **Does** | Anna carries a 0.75l reusable water bottle with her, which she fills with tap water at home and her office. She and her 2 kids drink from the bottle when they are out and about. At the office or at home, there is a jug with cold tap water and glasses freely available. She aims to drink 2l water a day and encourages her kids to take a sip of water every now and then as well as drink a glass of water during the meals.<br>During the warm season (April to September) she typically buys twice a week refrigerated water in a 1.5l plastic bottle from a shop. |

# Appendix B

## User Story

**As Anna** the active Amsterdammer, **I want to** locate the nearest drinking fountain when out and about in Amsterdam **so that I can** refill my bottle with fresh water at a public water tap that is close to my current location.

## Child stories and test case

As Anna the active Amsterdammer, I want to locate the nearest drinking fountain when out and about in Amsterdam, so that I can refill my bottle with fresh water at a public water tap that is close to my current location.

| **Child Story** | **Test Cases** |
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| ‘I don’t know the area I am currently, and I want the app to show me the location of the nearest drinking fountain and direct me how to best get there.’ | Make sure it’s possible that the app is automatically locating the user and shows directions to the nearest drinking fountain (e.g. using google maps).<br><br>Make sure it includes a photo of the drinking fountain to help spotting it. |
| ‘I don’t know where the next drinking fountain is located and I want the app to list me a | Make sure it’s possible to enter a location and get a list of drinking fountains (ranked by |

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| couple of nearby drinking fountains so I can decide which one is on my way.' | distance of the address which was entered).<br><br>Make sure it is possible to enter an address, Point of interest or location (e.g. GPS coordinates). |
| 'I don't know where drinking fountains are located across Amsterdam and I want the app to show me the locations on a map so I have an idea where to find them when I am exploring Amsterdam.' | Make sure it's possible to see the location of all drinking fountains on a map (e.g. linked to google maps). |
| 'I don't know if the drinking fountains are working during the winter months and I want to see before I get there if there is water to tap.' | Make sure it's possible to see in the app if a drinking fountain is out of order or shut down temporarily. |